DeltaV™ Workstation Hardware

The DeltaV™ Operator Workstations are available to support multiple versions of DeltaV Systems.

- Pre-installed Operating System software for ease of deployment.
- Available with Microsoft XP, Windows 7, and Server 2008.
- Easy control network installation all network cards pre-installed and ready to plug and play.
- Choice of client and server workstation hardware to optimize your cost/performance.
- Choices for tower and rack-mount computers including RAID drive options.
- Supports single, dual and quad monitors.

Introduction

DeltaV™ software runs on a limited variety of Dell Intel-based computers. Available using workstation hardware with single, dual or quad monitors or using server hardware with a single monitor, the selection of DeltaV workstation hardware provides the performance you need to engineer your control strategy and operate your process.

DeltaV workstations run on a specific set of preselected Dell computer hardware specifically chosen to provide the best cost performance solution for your DeltaV system. We provide you with a guaranteed solution to deliver the performance required.

We have pre-tested the DeltaV system with both the hardware configuration and the operating system configuration so you can be sure that DeltaV will always operate correctly. You will never be bothered with incompatible drivers, bad or overwritten DLLs, or substandard hardware. You will not waste time in no-value system setup engineering and troubleshooting. Instead, you can focus on your process control functions.

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Process Management

Benefits

Pre-installed software. When ordered through a DeltaV system integrator who can pre-load the correct DeltaV software version, the pre-loaded workstation, monitor, keyboard, and mouse are delivered ready to plug and play in your DeltaV system. This is hassle-free hardware delivery. No third-party interfaces, compatibility problems, nor software versions to worry you. A trouble-free system is guaranteed.

Easy control network installation. The workstation ships from the factory with the appropriate DeltaV control network cards preinstalled—no cases to open or network drivers to set up. Just plug a control network segment into the workstation and the other end into the DeltaV control area network (ACN), and you've just set up a new DeltaV network node.

Choose between PCs and servers to optimize your cost/ performance. Some systems are served well with PC workstations. But when larger systems demand higher levels of performance, the servers provide exactly what you need.

Flexible options. Match our options with your requirements for towers, servers, dual monitors and RAID storage. We provide recommendations, but the choice is yours. Either way, the operating system is pre-loaded and ready to roll.

64 bit O/S only supported for DeltaV v13.3. Move up to Windows 64 bit O/S for both workstations and servers. DeltaV v13.3 is a 64 bit O/S only DeltaV system.

Product Description

The workstation hardware described in this document is subject to improvements at any time. It is the policy of Emerson Process Management to ship workstation hardware that is current with industry standards.

We want you to enjoy the benefits of the increasing performance and decreasing costs inherent with using state-of-the-art, off-the-shelf equipment as much as possible. DeltaV performs testing to help eliminate the risks associated with new platforms, and we continue to focus on measures that extend the life of installed hardware.

Workstation Hardware

Plenty of horsepower. All workstations use state-of-the-art processors well suited to provide the performance required for DeltaV software.

Lots of memory. All computers come with sufficient memory to handle DeltaV applications.

Secure data and fast recovery from hard drive failures. Workstations with RAID1 drives provide higher availability and fast recovery from failures. Servers in RAID 10 configurations maximize data protection and help enhance the performance of the server.

Crystal clear video. DeltaV software works at 1024 x 768, 1280x1024 or 1680x1050 [wide screen] pixel resolution (DeltaV v10.3 and later only). [Please see monitors section for details]. You can increase your viewing space with dual monitors or quad monitors. [servers now support wide screen]

Alarm Annunciation. Audible alarms use the on-board sound cards included on the motherboards of all operator workstations. (Sound is not available on server-class computers.)

Legendary support. Emerson Process Management consistently receives top honors in service from our customers. This service is extended with a variety of optional support plans. When you subscribe to one of these plans, you are supplied with an external modem. This modem enables the factory to perform remote diagnostics on your workstation should the need arise.

Communications redundancy. The DeltaV system is solid, secure, and safe. The DeltaV control network is fully redundant, and the workstations are equipped to take advantage of this redundancy.

System Backups - All workstations come with a DVD-RW drive that can be used for storing backup data.

Monitor Options - Choose standard or widescreen flat panel monitors to display your process graphics. Choose dual or quad monitors for maximum viewing area.

Monitor Specifications

The DeltaV system supports the Dell Professional P2213 22-inch Widescreen Flat Panel Monitor with a 16:10 aspect ratio in a 1680x1050 resolution in DeltaV 10.3 or newer systems. [DeltaV does not support 16:9 aspect ratio monitors]

Wide screen monitors are supported on all DeltaV Workstations including server class computers as noted below. Wide screen monitors must be connected to the computer prior to making wide screen resolution selections.

The DeltaV system also supports the SE2803 19" LCD Monitor (Dell Model 1913S) (5:4 aspect ratio 1280x1024 resolution only) on workstations and servers. (This SE2803 monitor does not support 1600x1200 resolutions).

Touch screen is supported on DeltaV workstations however touch screen monitors are not longer supported as a standard offering. Touchscreen monitors must be sourced locally as part of the project using the 3M touchscreen technology listed in the Touchscreen product data sheet. Monitors selected for touchscreen should match the aspect ratio and Optimal resolution of the supported Dell P2213 monitor.

Monitor physical appearances change periodically and without notice from monitor suppliers. We cannot guarantee that physically compatible monitors will be available at all times. If you require that any spare or replacement monitors be physically compatible with installed monitors, then spare or replacement monitors must all be ordered at the same time the initial workstation is ordered.

Specifications Common to all Computers (applies to all computers with exceptions noted under computer specifications)

Please refer to the Emerson Process Management Product Support Guidelines for complete details on available DeltaV Workstation hardware and software support. Consult our local Emerson support office or Representative or visit us at ***www.SureService.com****).*

All computers must be installed in a dust-free, contaminant-free environment. These computers are not suitable for mounting in industrial environments unless they are mounted in enclosures that provide the necessary dust-free and contaminant-free environment. Environment must meet **Class G1** level for airborne contaminants per the ISA standard **ISA–71.04–1985, Environmental Conditions for Process Measurement and Control Systems: Airborne Contaminants**.

It is the responsibility of the user to insure their environment is compatible with G1. Due to compliance to RoHS requirements newer computers may not survive in the same environment as older models. If there is any chance of sulfur in the environment computers must be protected in environmental enclosures or relocated to a sulfur free environment.

Temperature: Operating 10° to 35°C (50° to 95°F) Storage –40° to 65°C (–40° to 149°F)

Relative humidity: 20% to 80% (non-condensing)

Altitude: Operating –15.2 to 3048 m (–50 to 10,000 ft.), Storage –15.2 to 10,668 m (–50 to 35,000 ft.)

Computer Restore Image: All computers come with an operating system restore image DVD for fast recovery of the O/S when restoring a computer. Operating Systems install disks are not provided.

Unless specifically listed in the individual computer specifications floppy Drives are no longer included with computers. Files can be transferred using portable USB media rather than floppy drives. If a floppy drive is required a USB floppy drive can be supplied locally.

Note on the use of Uninterruptible Power Supplies with DeltaV Workstations

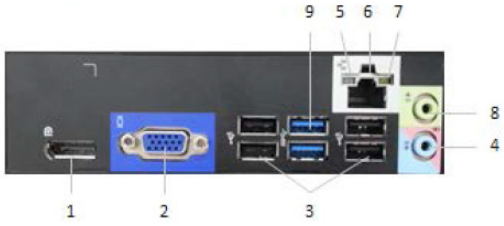
For workstations and servers that will be used as a DeltaV ProfessionalPlus Workstation the use of an Uninterruptible Power Supply is **required to prevent possible database corruption due to a sudden power loss** on the ProfessionalPlus.

In addition it is strongly suggested that all DeltaV Workstations including Operator workstations be connected to a UPS system to prevent possible corruption of the O/S, DeltaV software, or other data (such as historians) duing a sudden power loss. Critical devices on the DeltaV network should always be protected by the use of an UPS system from possible damage due to sudden power loss.

SE2532 DeltaV Operator Workstation – single monitor [based on Dell Optiplex 3020 desktop computer]
[This workstation does not support Windows XP]

- Small Form Factor chassis.
- 3 Network Interface Ports, 1 onboard plus two add-in NICs.
- Single Intel processor CORE i5-4590 Quad core 3.3GHz Turbo.
- Memory: 4.0GB.
- Drives: 500GB or larger.
- 8x Slimline DVD +/- RW SATA drive.
- On-board integrated audio.
- On-board integrated video, HD Graphic 4600 (single-monitor only).
- Speakers.
- USB Optical mouse (2 button w/scroll).
- USB Local country keyboard.
- Local power cord option.
- The SE2532 ships with Windows 7 Windows for Embedded Systems 64 bit installed and includes a Windows 7 32 bit and 64 bit image DVD to field convert the workstation to a 32 bit O/S. This computer will support both English and non-English versions of DeltaV and includes the language MUI DVD required for installing a localized non-English version of DeltaV. This unit does not come with a Windows 7 O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. This computer does not support Windows XP.
- Dimensions (H x W x D) Inches/(cm) : 14.2 x 6.9 x 16.4 / (36.0 x 17.5 x 41.7)
- Weight (lbs/kg) : 20.68 / 9.4
- Power Supply Unit (PSU) : Standard 290W PSU Active PFC.
- **Maximum vibration:** Operating 0.25 G at 3 to 200 Hz at 0.5 octave/min, Storage 0.5 G at 3 to 200 Hz at 1 octave/min.
- **Maximum shock:** Operating Bottom half-sine pulse with a change in velocity of 50.8 cm/sec (20 inches/sec), Storage 27-G faired square wave with a velocity change of 508 cm/sec (200 inches/sec).

Back Panel Connectors			
1	DisplayPort Connector	6	Network Connector
2	VGA Connector	7	Network Activity Light
3	USB 2.0 Connectors (4)	8	Line-out Connector
4	Line-in/Microphone Connector	9	USB 3.0 Connectors (2)
5	Link Integrity Light		



Note: The SE2532 does not contain a COM port or build in P/S2 ports. There are no unused card slots to accept add-in cards for these functions.

SE2525 or VE2555 —DeltaV Rack Mount Workstation – Single and Dual Monitor workstation [based on Dell R5500XL]

The rack mounted workstation is only supported on DeltaV v9.3 and newer versions- quad monitor is supported only on v11.3 and newer

- 3 network interface ports.
- CPU: Single Intel Xeon Quad Core processor.
- Memory: 4GB.
- Drives: Qty 2- 500GB in a RAID 1 configuration.
- 8x DVD +/- RW Drive.
- On-board integrated audio.
- Video: Qty 1 - ATI FirePro V2270 dual DVI graphics card (dual-monitor capable). The video card provides one DVI output using an included splitter cable to provide dual DVI outputs. There are no VGA ports available on the video card. There are no DVI to VGA adaptors included.
- Speakers: Dell two-piece stereo speakers.
- USB Optical mouse (2 button w/scroll), Local USB country keyboard, local power cord option.
- Rack Rails: Rack chassis with Sliding/Versa Rails and Cable Management Arm.
- The SE2525 ships with Windows 7 Windows for Embedded Systems 32 bit installed and includes a Windows 7 32 and 64 bit image DVD to field convert the workstation to a 64 bit O/S. [Note: the SE2523 will continue to be shipped with 32 bit installed]. This computer will support both English and non-English versions of DeltaV and includes the language MUI DVD required for installing a localized non-English version of DeltaV. This unit does not come with a Windows 7 O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. Note that Windows for Embedded Systems licenses do not support downgrade rights this computer cannot be converted to XP as we do not provide an XP license kit for this purpose.
- The VE2555 ships with Windows XP Embedded OEM (32bit only) installed and includes a Windows XP image DVD. This computer will support both English and non-English versions of DeltaV. This unit does not come with a Windows XP O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. Note that Embedded OEM licenses do not support downgrade rights. This computer is licensed for XP only and is not Windows 7 downgraded to XP. Future upgrades of this computer to any new O/S version will require purchase of a new Microsoft Windows license. Windows 7 cannot be installed on this computer unless a Windows 7 upgrade kit is purchased to obtain the proper Microsoft O/S licensing.
- Chassis: 2U rack mount.
- Height: 3.40 in (86.3mm), Width: 17.34in (440.60mm), Depth: With front bezel 28.84 in (732.54mm).
- Weight: With front bezel 52.71 lb. (23.91 kg).
- Power supply: Dual redundant power supplies (hot swappable). Each supply 1100W 92% plus efficiency Maximum heat dissipation for 1100W power supply: 1819.1 BTU/hr with 15 amp power cables.
- Maximum vibration (using a random-vibration spectrum that simulates user environment) -
  - Operating: 5 to 350Hz at 0.0002G/Hz.
  - Storage: 5 to 500Hz at 0.001 to 0.01G/Hz.
- Maximum shock -
  - Operating: 40G +/- 5% with pulse duration of 2msec +/- 10% (equivalent to 20in/sec [51cm/sec]).
  - Storage: 105G +/- 5% with pulse duration of 2msec +/- 10% (equivalent to 50in/sec [127cm/sec]).

E2525 or VE2555 —DeltaV Rack Mount Workstation—Single and Dual Monitor workstation [based on Dell R5500XL]

The rack mounted workstation is only supported on DeltaV v9.3 and newer versions- quad monitor is supported only on v11.3 and newer

Specifications for the Wyse® P25 Zero Client

The P25 Zero Client has dual video outputs and will support DeltaV Dual Monitor workstations

One P25 Remote Access Device (KVM)

I/O Peripheral Support	Single Link DVI-I port, One DisplayPort (1 DisplayPort to DVI adapter included) Four External USB 2.0 ports (2 front; 2 back)
Button / LEDs	Multi-Function power button LED
Networking	10/100/1000 Base-T Gigabit Ethernet
Display	VESA monitor support with Display Data Control (DDC) for automatic setting of resolution and refresh rate
Audio	Composite Audio 1/8-inch mini jack, One Line out / speaker 1/8-inch mini jack
Physical Characteristics	Height: 1.14 inches (29 mm), Width: 6.97 inches (177 mm) Depth: 4.57 inches (116 mm)
Shipping Weight	8.15 lbs. (3.7 kg)
Mounting	Horizontal feet standard also doubling as VESA mounting bracket
Device Security	Built-in Kensington security slot (cable sold separately)
Power	Worldwide auto-sensing 100-240 VAC, 50/60 Hz. power supply Average power usage with device connected to 1 keyboard with 1 mouse and 1 monitor: less than 8 watts
Temperature Range	Operating: 32° to 104°F (10° to 40°C), horizontal and vertical positions. Storage: 14° to 140°F (-10° to 60°C)
Humidity	20% to 80% condensing, 10% to 95% non-condensing

Installation Note:

If the rack mounted workstation is installed within 100m of the monitor/mouse/keyboard, then using dedicated point to point Ethernet-wired connections between the PC and P25 is required..

If distance is longer than 100m, then dedicated point to point fiber connections using media converters are required to extend length.

The use of patch panels as part of the wiring between the PC and P25 is strongly discouraged due to possible network issues introduced using these devices. Dedicated wiring runs are strongly recommended for P25 connections.

We only support dedicated point to point connections from the PC to the P25 device. If a switched network solution will be used between multiple workstations and remote P25 devices it must be a network dedicated to serving the P25 devices and must not be shared with any other communications and Ethernet network planning and design will be required for a successful implementation. Consult Emerson Process Management SureService to obtain a quotation for assistance with this network planning.

Replacement part kit for the FX100 or P25 KVM

SE2500KIT-1 Dual Monitor KVM Kit for dual monitor rack mount workstations: Provides the interface card, cables and Wyse P25 KVM as a spare part for or to upgrade an FX100 KVM to a Wyse P25 KVM. See the DeltaV KBA # NK-1300-0245 for instructions. [This kit is for the SE2525 or VE2555 (Dell R5500XL) only. Not supported on earlier versions of the DeltaV Workstations).

SE2513 —DeltaV Rack Mount Quad Monitor workstation [based on Dell R5500XL]

The quad monitor rack mounted workstation is only supported on DeltaV v11.3 and newer versions

- 3 network interface ports.
- CPU: Single Intel Xeon Quad Core processor.
- Memory: 4GB.
- Drives: Qty 2- 500GB in a RAID 1 configuration.
- 8x DVD +/- RW Drive.
- On-board integrated audio.
- Video: Qty 2 - ATI FirePro V2270 dual DVI graphics card (quad-monitor capable) (**Note**—Enabling the use of more than 2 monitors requires the use of a DeltaV 4 monitor license). The video card provides one DVI output using an included splitter cable to provide dual DVI outputs. There are no VGA ports available on the video card. There are no DVI to VGA adaptors included. Each video card supports up to 2 monitors.
- **External KVM Extenders must be purchased separately using the KVM solutions provided in the Alliance program.** (The SE2513 does not support an FX100 or Wyse P25 Zero Client and the Wyse/Dell KVM interface card is not installed on this computer).
- Speakers: Dell two-piece stereo speakers.
- USB Optical mouse (2 button w/scroll), Local USB country keyboard, local power cord option.
- Rack Rails: Rack chassis with Sliding/Versa Rails and Cable Management Arm.
- The SE2513 ships with Windows 7 Windows for Embedded Systems 32 bit installed and includes a Windows 7 32 and 64 bit image DVD to field convert the workstation to a 64 bit O/S. [Note the SE2513 will continue to be shipped with 32 bit installed] This computer will support both English and non-English versions of DeltaV and includes the language MUI DVD required for installing a localized non-English version of DeltaV. This unit does not come with a Windows 7 O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. Note that Windows for Embedded Systems licenses do not support downgrade rights and XP cannot legally be installed on this computer.
- Chassis: 2U rack mount.
- Height: 3.40 in (86.3mm), Width: 17.34in (440.60mm), Depth: With front bezel 28.84 in (732.54mm).
- Weight: With front bezel 52.71 lb. (23.91 kg).
- Power supply: Dual redundant power supplies (hot swappable). Each supply 1100W 92% plus efficiency Maximum heat dissipation for 1100W power supply: 1819.1 BTU/hr. with 15 amp power cables.
- Maximum vibration (using a random-vibration spectrum that simulates user environment) -
  - Operating: 5 to 350Hz at 0.0002G/Hz.
  - Storage: 5 to 500Hz at 0.001 to 0.01G/Hz.
- Maximum shock
  - Operating: 40G +/- 5% with pulse duration of 2msec +/- 10% (equivalent to 20in/sec [51cm/sec]).
  - Storage: 105G +/- 5% with pulse duration of 2msec +/- 10% (equivalent to 50in/sec [127cm/sec]).

SE2515 or VE2554—DeltaV Dual/Quad Monitor Workstation [based on Dell T3600 workstation]

(DeltaV has consolidated the dual and quad workstations into a single computer)

- 3 Network Interface Ports.
- Intel Quad Core processor.
- Memory: 4GB.
- Drives: 2 - 250GB or greater hard-drives – installed in a RAID 1 configuration.
- DVD+/--RW.
- On-board integrated audio.
- Video: Qty:2 Dell's OEM version of the ATI FirePro V4900 card, dual DVI or DisplayPort graphics card (dual-monitor capable) Each video card provides one DVI and 2- DisplayPort outputs. A DisplayPort to DVI adaptor is included to create dual DVI outputs. There are no VGA ports available on the video card. There is 1 DVI to VGA adaptor included. If more VGA outputs are required a DisplayPort to VGA adaptor must be purchased locally. Video card supports up to 2 monitors - either 2 DisplayPort outputs or one DisplayPort and one DVI port. (Please contact Emerson for the latest information on the approved adaptor).
- Speakers: stereo speakers.
- USB Optical mouse (2 button w/scroll).
- Local USB country keyboard (for languages supported).
- Local power cord option.
- The SE2515 ships with Windows 7 Windows for Embedded Systems 64 bit installed and includes a Windows 7 32 and 64 bit image DVD to field convert the workstation to a 32 bit O/S. This computer will support both English and non-English versions of DeltaV and includes the language MUI DVD required for installing a localized non-English version of DeltaV. This unit does not come with a Windows 7 O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. Note that Windows for Embedded Systems licenses do not support downgrade rights and XP cannot legally be installed on this computer. If you need an XP based computer you MUST order the VE number version. Windows 7 computers cannot be converted to XP as we do not offer an XP license kit for this purpose.
- The VE2554 ships with Windows XP Windows for Embedded Systems (32 bit only) installed and includes a Windows XP image DVD. This computer will support both English and non-English versions of DeltaV. This unit does not come with a Windows XP O/S reinstall DVD. The image DVD is the only method available to reinstall the O/S on this computer. Note that Windows for Embedded Systems licenses do not support downgrade rights. This computer is licensed for XP only and is not Windows 7 downgraded to XP. Future upgrades of this computer to any new O/S version will require purchase of a new Microsoft Windows license. Windows 7 cannot be installed on this computer unless a Windows 7 upgrade kit is purchased to obtain the proper Microsoft O/S licensing.
- Chassis: Convertible Mini-tower

  (H x W x D): 16.3" x 6.8" x 18.54" (H x W x D): 41.4cm x 17.3cm x 47.1cm

  Weight: 29.1 lb. (16.3 kg)
- Power—635-watt power supply.
- See the single monitor workstation specifications for environmental requirements.

SE2409 DeltaV Workstation—General Specifications [based on a Dell T630 server]

(This workstation is compatible only with DeltaV v11.3 and newer)

- Four Ethernet ports (two on-board + Intel i350 DP 1GB server adaptor dual NIC ports).
- Single CPU Quad Core Intel® Xeon® E5-2609 1.9 GHz.
- Integrated VGA Controller.
- Memory RDIMM, 2133MT Memory : 4GB.
- Hard drive : hot pluggable 15K RPM SAS 6Gbps 2.5 hard drives w/ 3.5" Hybrid Carrier: PERC H730 RAID Controller: Drives included: Two 300GB setup in a RAID 1 configuration.
- DVD+/-RW drive.
- USB Optical mouse (2 button w/scroll), Local USB country keyboard, Local power cord option.
- SE2409 includes Windows Server 2008 license and a Server 2008 R2 image DVD. Windows Server 2008 64 bit operating system comes pre-installed and includes a Server 2008 32 and 64 bit image restore DVD to field convert the DeltaV Workstation to a 32 bit O/S. Includes 5 additional server CAL licenses (total of 10). Language support included with DeltaV over-pack.
- Height 443.5 mm (17.5 inch) with feet / 434.5 mm (17.1 inch) without feet.
- Width 304.5 mm (11.98 inch) with feet opened / 217.9 mm (8.57 inch) with feet closed.
- Depth 692.8 mm (27.27 inch) without bezel / 708.7 mm (27.9 inch) with bezel.
- Weight (maximum configuration) 51.0 kg (112.43 lb) for 3.5 inch hard-drive chassis.
- Single, hot-pluggable 750W power supply Note: UPS required if used as a ProfessionalPlus to protect the system in the event of an unplanned power loss.
- Vibration: Operating: 0.26G at 5Hz to 350Hz for 2 minutes , Storage: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes.
- Shock: Operating Shock: 1 shock pulse of 41G for up to 2ms, Storage: 6 shock pulses of 71G for up to 2ms.
- Note: Servers do not have PS/2 ports or parallel ports. Requires the use of a USB dongle.
- The RD1000 is not included in the standard server and must be ordered separately from Dell. Only an external RD1000 can be supplied separately.

This server does support wide screen monitor resolutions, but does not support multi-monitors or sound cards (no speakers provided with servers).

NOTE: This server does not support the Server 2003 Operating System

Servers for use with Server 2003 must be purchased using the refurbished computer hardware available from DeltaV please consult with Installed Base support for information on the refurbished computer program.

SE2408 DeltaV Workstation—General Specifications [based on the Dell T630 server]

(This workstation is compatible only with DeltaV v11.3 and newer)

- Four Ethernet ports (two on-board + Intel i350 DP 1GB server adaptor dual NIC ports).
- Integrated VGA Controller.
- Memory: RDIMM, 2133MT.
- Hard drive : hot pluggable 15K RPM SAS 6Gbps 2.5 hard drives w/ 3.5" Hybrid Carrier: PERC H730 RAID Controller.
- DVD+/-RW drive.
- USB Optical mouse (2 button w/scroll), Local USB country keyboard, Local power cord option.
- SE2408 includes Windows Server 2008 license and a Server 2008 R2 image DVD. Windows Server 2008 64 bit operating system comes pre-installed and includes a Server 2008 32 and 64 bit image restore DVD to field convert the DeltaV Workstation to a 32 bit O/S. Includes 5 additional server CAL licenses (total of 10). Language support included with DeltaV over-pack.
- Height 443.5 mm (17.5 inch) with feet / 434.5 mm (17.1 inch) without feet.
- Width 304.5 mm (11.98 inch) with feet opened / 217.9 mm (8.57 inch) with feet closed.
- Depth 692.8 mm (27.27 inch) without bezel / 708.7 mm (27.9 inch) with bezel.
- Weight (maximum configuration) 51.0 kg (112.43 lb) for 3.5 inch hard-drive chassis.
- Dual, hot-pluggable 750W power supply Note: UPS required if used as a ProfessionalPlus to protect the system in the event of an unplanned power loss.
- Vibration: Operating: 0.26G at 5Hz to 350Hz for 2 minutes , Storage: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes.
- Shock: Operating Shock: 1 shock pulse of 41G for up to 2ms, Storage: 6 shock pulses of 71G for up to 2ms.
- Note: Servers do not have PS/2 ports or parallel ports. Requires the use of a USB dongle.
- The RD1000 is not included in the standard server and must be ordered separately from Dell. Only anexternal RD1000 can be supplied separately.

This server does support wide screen monitor resolutions, but does not support multi-monitors or sound cards (no speakers provided with servers).

NOTE:This server does not support the Server 2003 Operating System

Servers for use with Server 2003 must be purchased using the refurbished computer hardware available from DeltaV please consult with Installed Base support for information on the refurbished computer program.

SE2408C1-Tower Chassis Single Xeon Six Core CPU Server

- Drives: Two 600GB or greater SAS hard-drives in a RAID 1 Array.
- Single CPU - Intel Xeon E5-2620 2.42.00 GHz 6 cores.
- Memory: 16GB.

SE2408C1- Tower Chassis Dual Xeon Six Core CPU Server

- Drives: Six 600GB or greater 15K RPM SAS hard-drives in RAID 10 Array.
- Two CPUs - Intel Xeon E5-2620 2.400GHz 6 cores.
- Memory: 16GB.

SE2405- Rack-mount Xeon Six Core CPU Server General Specifications [based on Dell R720 server]

(This workstation is compatible only with DeltaV v11.3 and newer)

- 2U Rack-mountable chassis with sliding ready rails and cable management arm.
- 16GB Memory.
- 4 Ethernet ports all on the motherboard [no add-in NIC cards].
- 4 USB ports – 2 back panel and 2 on front panel.
- Integrated graphics controller with wide screen support (wide screen has been tested using our supported Dell P2213 monitor at 1680x1050 resolution and 16 bit color depth using a direct connection to the VGA port. Other monitors and KVM solutions may function without issues but have not been tested and may not be supported).
- Hot-pluggable drive backplane.
- Redundant, hot-pluggable 750W power supplies Note: UPS required if used as a ProfessionalPlus.
- SE2405 includes Windows Server 2008 Standard Edition licensed under Server 2008 for Embedded Systems. Server 2008 64 bit is pre-installed and includes Server 2008 32 and 64 bit image DVD to field convert the workstation to a 32 bit O/S. The SE2405 version should be ordered for use with Server 2008 versions of DeltaV. Includes 10 server CAL licenses. For Server 2008 - MUI is not required. Language support included with DeltaV overpack.
- DVD+/- R/W drive.
- USB mouse (2 button w/ scroll).
- Local USB country keyboard.
- Local power cord option.
- Rack Server Dimensions 29.31” (74.4cm) D x 17.5” (44.43cm) W x 3.4” (8.64cm) H with bezel attached.
- Rack Server Weight 50.71 lbs. (23 Kg), maximum configuration.
- Note: Servers do not have PS/2 ports or parallel ports. Will require the use of a USB DeltaV dongle.

Environmental

- Vibration: Operating: 0.26G at 5Hz to 350Hz for 2 minutes, Storage: 1.54Grms Random Vibration at 10Hz to 250Hz for 15 minutes.
- Shock: Operating: 1 shock pulse of 41G for up to 2ms, Storage: 6 shock pulses of 71G for up to 2ms.

Servers do not support multi-monitors, sound cards (no speakers provided with servers).

NOTE:This server does not support the Server 2003 Operating System

Servers for use with Server 2003 must be purchased using the refurbished computer hardware available from DeltaV please consult with Installed Base support for information on the refurbished computer program.

SE2405C1- Rack mount Single Xeon Six Core CPU Server

- Two SAS hard-drives, 600GB or greater in a RAID1 Array.
- Single CPU - Intel Xeon E5-2620 2.00GHz, 6 cores.

SE2405C2 - Rack-mount Dual Xeon Six Core CPU Server

- Six SAS hard-drives 600GB (or greater) drives in a RAID10 Array.
- Two CPUs- Intel Xeon E5-2620 2.00GHz, 6 cores.

Information on the "Windows for Embedded Systems" operating systems

"Windows for Embedded Systems" is a version of the Windows Operating systems specifically created and licensed for vendors who are purchasing the operating system for resale as part of a solution such as DeltaV. The Windows for Embedded Systems O/S software is exactly the same as the Dell OEM version.

The Windows for Embedded Systems license does introduce the following situations:

Computers supplied with "Windows for Embedded Systems" licenses are licensed only for the operating system purchased with the computer and do not have "downgrade rights". Any change to the license shipped with the computer requires the purchase of a new O/S license.

The DeltaV SE and VE numbered computers using the "Windows for Embedded Systems" license must only be used as a DeltaV workstation or for DeltaV related tasks. These computers may not be purchased for use as general purpose computer or used for applications where DeltaV or DeltaV related tasks are not primary use for the computer.

As a Windows for Embedded Systems licensed vendor Emerson can continue to provide Windows XP licenses on new computers (even though XP is no longer available from other suppliers) and to provide Windows 7 and Server 2008 Upgrade kits which can only be purchased from Emerson.

Use of KVM (Keyboard, Video and Mouse) extenders and switches on DeltaV Workstations

Only the specific KVM products listed in the DeltaV Alliance program are supported with DeltaV. If you have requirements for a KVM extender or switch that cannot be met by these KVM solutions you must submit an engineering request for a supported solution. Please note the video card information on the workstation computers. The video output connectors have changed and special adaptors must be used [that may not be supplied] or new KVM equipment may have to be obtained to use these computers in existing systems where KVMs are installed. These computers no longer have VGA connectors and the use of VGA adaptors may not be supported by existing KVM devices

Computer Ordering Information

Ordering numbers (VE and SE numbers) are listed in the sections above. These specifications are subject to change without notice. We guarantee that the computers sold for use with the DeltaV system will provide performance and storage space needed to support DeltaV solutions. We do not guarantee that the hardware specifications of the computers will remain unchanged during the sales life of a specific DeltaV SE or VE number.

The DeltaV Workstation specifications provided in this data sheet describe the products sold by Emerson for use with DeltaV Control Systems. These specifications are not provided to allow users to purchase similar computers directly from Dell or other PC vendors. The DeltaV system is supported only on the specific Dell computer configurations specified in this document and sold from our pricebook. The DeltaV system is not supported on other Dell computers or other computer configurations or on non-Dell computers unless specifically noted otherwise. Any use of non-supported computers will affect our ability to provide technical support and will involve additional costs for technical support.

NOTE: *Hardware specifications of these computers especially as related to: size, backplane connection types (such as COM ports or P/S2 ports), number of slots, etc. are not guaranteed to be available on newer DeltaV workstations as these specifications can change from the vendor. It may not be possible to provide the same capabilities from one version of a DeltaV Workstation to a succeeding version.*

To order the computers in this document with specifications different than those listed requires a customer special configuration to be quoted by Emerson. Changing computer specification requires testing the new configuration for compatibility with DeltaV software.

"This PDS only provides specifications for DeltaV specific options that can vary from the standard Dell computer. So specifications for features that are built-in and not optional are not listed. If detailed information on the standard features of the computer is required please refer to the Dell specifications.

Note about modifying DeltaV Workstation Hardware configurations

DeltaV workstations are delivered with sufficient memory, hard drives and network interface cards and other hardware to support all DeltaV applications. No additional hardware changes are required to support DeltaV applications and standard installations. As such we do not support the field installation of additional memory, additional hard drives, added NIC cards, different video cards or other field implemented hardware modifications without consultation with Emerson. Failure to consult with Emerson on any hardware modifications may result in poor DeltaV performance and make it difficult to provide technical support for those workstations that have been modified. Hardware modifications can also require changes to the Windows O/S configuration that may impact the performance of the workstation or the network.

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